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PATENT
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Hans Kragl
Rolf Hohmann

Serial No.: 09/854,779

Filed: May 14, 2001

For: A CIRCUIT BOARD
CONSISTING OF AT LEAST
TWO INDIVIDUAL LAYERS
MADE OF PLASTIC

Examiner Jeremy Norris (newly reassigned)

(Application previously assigned to
Examiner Kamand Cuneo)

Art Unit: 2827

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2002.

Jack H. Boock

Joel H. Bock
Registration No. 29,045

Commissioner for Patents
Washington, D.C. 20231

RESPONSE

In response to the Office Action of August 13, 2002, please consider applicants' remarks below.

Prior to the submission of this amendment, applicants attempted to contact Examiner Kamand Cuneo to discuss this application and were informed that the case was reassigned. Applicants then contacted Ms. Cuneo's supervisor to determine which Examiner has been reassigned the application and were recently told that the new Examiner is Mr. Jeremy Norris.

Applicants attempted to contact Mr. Norris, but were not successful in contacting him before the filing of this amendment.

The present application includes claims 1-30, with claims 1-6, 11, 15 and 20-21 being previously elected along with the species of Figure 6. Claim 1 is the only independent claim among the elected claims.

As to the §103 rejection, applicants respectfully disagree that Haba et al. 6,188,028 would render claim 1 obvious. Claim 1 was previously amended to further define the microstructured positioning formation. Claim 1 includes that the positioning formation is formed during formation of the circuit board layers. It is presumed in the Office action that the structure in Haba is identical to applicants' claimed structure. This is not a correct understanding of Haba.

First, Haba's structure does not form positioning formations. In Haba the openings 120 and the distal end portion 140 are not formed during the formation of the circuit board layer. Rather they are formed in or created from the already formed circuit board layers through a series of steps which include electroplating, using a photoresist mask, and etching. Haba teaches that the metallic layer 142 is a mask which is placed over the dielectric body 104. The mask has an opening 146 in the layer 142. Radiant energy is applied at the opening 146 in the mask to create or etch an opening 120 in the underlying dielectric body 104, but this opening is not applicants' claimed positioning formation.

The teachings of Haba cannot teach or suggest the claimed positioning formations because the steps used in Haba inherently introduce large tolerances in the position of the openings. Figures 3-7 illustrate the chemical or plasma etching steps which are required to form the opening 120 through one or more of the layers of the circuit panel (Column 9, lines 8-41).

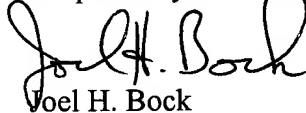
The nature of the chemical or plasma etching process make precise alignment of the circuit board layers impossible.

In addition, Haba fully admits that the specific shape of the opening must allow for "misregistration tolerances of the post pitch." (Column 8, lines 14-20). Haba's post 138 and distal end portion 140 are not aligned with the openings 120, 122. So the shape of the opening 122 must allow for misalignments between the circuit panels. Haba therefore teaches that the post 138 cannot be precisely positioned in the opening 122 for stacked alignment of the circuit board layers, which is contrary to the applicants claimed positioning formations. Accordingly, it is respectfully submitted that the Haba reference does not teach or suggest the subject matter of claim 1.

It is respectfully submitted that claims 1-6, 11, 15 and 20-21 are distinguishable over the cited reference. Reconsideration of allowance of the application is respectfully requested.

Although applicants were not able to conduct an interview with Examiner Norris prior to the submission of this amendment, applicants remain willing to discuss the above application at the Examiner's convenience.

Respectfully submitted,



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PTO/SB/21 (08-00)
Approved for use through 10/31/2002. OMB 0651-0031
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	Filing Date	May 14, 2001	
	First Named	Hans Kragl et al.	
	Group Art Unit	2827	
	Examiner Name	Jeremy Norris	
Total Number of Pages in This Submission	4	Attorney Docket Number	1024-0109

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SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
Firm or Individual name	Joel H. Bock, Reg. No. 29,045
Signature	 26568 U.S. Patent & Trademark Office
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